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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/699,868

11/04/2003

Shyu-Mou Chen

2846-0284P

5116

2292

7590

10/05/2005

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EXAMINER

HANLEY, JOHN C

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/699,868

Applicant(s)

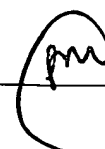
CHEN ET AL.

Examiner

John C. Hanley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 2,5,8,9 and 12-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,7,10 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I in the reply filed on July 25, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Further, it is noted that applicant has filed a divisional application containing the same claims as Group II. Claims 25-35, drawn to the non-elected invention, are withdrawn from consideration. Claims 1-24 are grouped with the elected invention of Group I.

2. Applicant's further election of the species of Figure 2a/2b in the reply filed on July 25, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the election requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

3. Applicant indicated that independent claims 1 and 13 should be generic to the different figures (species?). This is not accepted because these claims do not read on ALL of the individual species. For example, claim 1 does not read on the species of Figures 6 or 7. Similarly, claim 13 reads ONLY on Figure 7, so it cannot be generic to ALL of the individual species. Thus, no claims are generic.

4. Applicant indicates that "elected Figs. 2A and 2B should also read on claims 2-11 and 15-23." While this may be a matter of semantics, a proper election indicates the claims that are readable on the elected species. Applicant further states, "While certain of these claims may be directed to other embodiments having fewer elements than that of Figs. 2A and 2, these

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other claims should also read on the elected embodiments of Figs 2A and 2B." This is not understood. It is not even clear as to what other claims applicant refers. Applicant appears to indicate that claims 1-11, 13 and 15-23 read on the elected species of Figures 2A/2B. The Examiner does not agree. As previously indicated, claim 13 reads ONLY on Figure 7. Therefore, all claims depending from claim 13 read only on Figure 7, and are withdrawn from consideration. These include claims 13-24. Similarly, the Examiner considers that claims 1, 3, 4, 6, 7, 10 and 11 read on the elected species of Figs. 2A/2B. Claim 2 reads on Figures 4 and 5, not 2A/2B. Claims 5 and 8 read only on Figure 5, as interpreted by the "directly connected" limitation in light of the specification. Similarly, claim 9 reads on Figure 5, and not the elected species. Claim 12 is readable on Figure 6, according to the specification. There is no indication that the elected species is manufactured with a "(110) silicon chip by bulk micromachining technique.

5. In sum, of claims 1-24 elected in Group I, claims 1, 3, 4, 6, 7, 10 and 11 read on the elected species of Figs. 2A/2B. Claims 2, 5, 8, 9 and 12-24 are withdrawn from consideration as being directed to a non-elected species of invention.

Drawings

6. The drawings are objected to because Figure 1 should be labeled as "Prior Art". In Figure 2A, dots are placed in the space between the lower proof mass and the respective driver, improperly indicating a material is present in that space. In Fig. 7a, beam 4 is not labeled.

7. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, means for providing DC bias and an AC voltage to drive and sense, and means

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for controlling the vibration amplitude of the proof mass along the first axis, and means for generating a feedback signal and rebalancing must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

8. The disclosure is objected to because of the following informalities: The grammar and/or word selection of paragraph [0030] renders it difficult to interpret.

Appropriate correction is required.

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Claim Objections

9. Claims 1 and 11 are objected to because of the following informalities: Claim 1 needs a transitional phrase such as "comprising". There are needed grammatical changes needed, for example, in the multiple instances of "interposed each other" and "being formed two sets"; and also "by sense the change", "driver body being formed a plurality of grooves", "driver body being formed two sets", etc. Further, there is no antecedent basis for "the surface of each plate corresponding to each driver body", "the surface of each plate corresponding to the proof mass", or "the output signals". Further, the claim language is couched in functional language of what can happen in operation rather than structurally limiting language. Appropriate correction is required. The last three clauses, for example, do not appear to add any structural limitations.
10. Regarding claim 11, there is no antecedent basis for "the z-axial velocity signal".

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
12. Claims 1, 3, 4, 6, 7, 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 1, it is unclear what phase is "proper". Regarding claim 11, it is unclear what the z-axial angular velocity signal is and what

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the relative direction the z-axis is to the recited elements, or what the second axial acceleration signal is.

Double Patenting

13. Claims 25-35 of this application conflict with claims 1-11 of Application No. 11/124106. 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 1, 3, 4, 6, 7, 10 and 11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 6928873 to Chen et al in view of U.S. Patent No. 5753817 to Park et al. Chen et al claims a two accelerometers each having a proof mass with a driver on each side, and associated beams connecting them together for relative movement to drive the proof masses in

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opposite directions in the same plane. Stripe electrodes, interposed with each other, are oriented and used to move the drivers in the same direction as recited in applicant's claims. However, the Coriolis sense direction is detected perpendicular to the plane of the substrate due to rotation about an axis parallel to the substrate. Thus, it lacks a teaching of arranging electrodes to on the proof masses to detect rotation about an axis perpendicular to the plane of the substrate. However, Park et al teaches how to measure rotation about an axis perpendicular to the plane of a substrate by sensing Coriolis force in the same plane as the driven force, in a direction perpendicular to the driven force, using strip electrodes. It would have been obvious to one of ordinary skill in the art at the time Patent No. 6928873 issued to modify the proof masses and electrode arrangement thereof, as taught in Park et al, to arrange strip electrodes under the proof masses that are perpendicular to the driver electrodes, to measure rotation about an axis perpendicular to the plane of the substrate. It would have been well within the ordinary skill in the art to also rearrange the supporting beams of Chen et al to accommodate the needed motion in the appropriate directions to sense the rotary motion in the direction perpendicular to the substrate. The functional language in the dependent claims regarding the purpose of the electrodes for being connected to DC or AC, or outputting DC or AC, etc., are not regarded as structurally limiting.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are cited to show the use of strip electrodes in accelerometer/gyroscope structure.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to John C. Hanley whose telephone number is 571-272-2195. The examiner can normally be reached on M-F 9AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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